

Title (en)
OPTICAL FIBER, OPTICAL FIBER RIBBON, AND OPTICAL FIBER CABLE

Title (de)
GLASFASER, GLASFASERBAND UND GLASFASERKABEL

Title (fr)
FIBRE OPTIQUE, RUBAN DE FIBRE OPTIQUE ET CÂBLE À FIBRE OPTIQUE

Publication
EP 4283352 A1 20231129 (EN)

Application
EP 22742618 A 20220119

Priority
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• JP 2022001856 W 20220119

Abstract (en)
An optical fiber includes a core portion, a side core layer, a cladding portion, a primary layer, and a secondary layer. Regarding a relative refractive-index difference $\Delta 1$ of the core portion, a relative refractive-index difference $\Delta 2$ of the side core layer, and a relative refractive-index difference ΔClad of the cladding portion; the relationship $\Delta 1 > \Delta \text{Clad} > \Delta 2$ holds true as well as the relationship $0 > \Delta 2$ holds true. That is, when the relative refractive-index difference $\Delta 1$ is equal to or greater than 0.23% and equal to or smaller than 0.30%, when the relative refractive-index difference $\Delta 2$ is equal to or greater than -0.23% and equal to or smaller than -0.08%, when the difference $(\Delta 1 - \Delta 2)$ is equal to or greater than 0.36% and equal to or smaller than 0.53%, when a core diameter $2a$ represents the core diameter of the core portion, and when an outer diameter $2b$ represents the outer diameter of the side core layer; the ratio b/a is equal to or greater than 2 and equal to or smaller than 5; the core diameter $2a$ is equal to or greater than 11.5 μm and equal to or smaller than 14.5 μm ; the effective core area at the wavelength of 1550 nm is equal to or greater than 100 μm^2 and equal to or smaller than 160 μm^2 ; the primary layer thickness as well as the secondary layer thickness is equal to 5 μm ; the primary elastic modulus is smaller than the secondary elastic modulus; and the microbending loss at the wavelength of 1550 is equal to or smaller than 1.0 dB/km.

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